

FDRKP-C

REFLECTOMETER, FREQUENCY DOMAIN

1. GENERAL. This procurement requires a swept-frequency reflectometer capable of characterizing faults in coaxial and waveguide transmission lines.

2. CLASSIFICATION. Type II, Class 5, Style EP, and Color R in accordance with MIL-T-28800 for shipboard applications.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of characterizing transmission lines with a single measurement as specified below. Hard-copy printouts of distance-to-fault with associated line loss and VSWR vs. frequency shall be provided.

3.1 Frequency range. 2 MHz to 1 GHz.

3.2 Impedance. 50 ohms nominal.

3.3 VSWR accuracy.

- a. 5% maximum for indicated values of 1.1 to 1.99.
- b. 10% maximum for indicated values of 2 or higher.

3.4 Sweep rate. 25 ms nominal.

3.5 Sweep increments. 5% or less of the specified frequency range.

3.6 Foreign signal rejection. A means shall be provided wherein harmonics and foreign signals that are within 10% of the operating frequency, and have an amplitude of 17 dBm or less for distance-to-fault measurements and 0 dBm or less for VSWR vs. frequency measurements, are rejected from the characterization process.

3.7 Distance-to-fault and line loss mode. The equipment shall measure and indicate the distance to each fault in a transmission line, the line loss, and VSWR associated with each fault.

3.7.1 Dynamic range. RF output level: 0 dBm nominal. Dynamic range: 80 dB.

3.7.2 Location accuracy.

- a. ± 1.5 ft maximum for distances of 150 ft and less.
- b. $\pm 1\%$ maximum for distances greater than 150 ft.

3.7.3 Overload indication. When the input exceeds 17 dBm, the equipment shall provide the operator with an overload indication. Maximum input: 30 dBm.

3.8 VSWR vs. frequency mode. A mode shall be provided where the equipment will measure and indicate VSWR vs. frequency.

3.8.1 Dynamic range. 30 dB or greater.

FDRKP-C

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal power source requirements are invoked. Maximum power consumption: 75W.

4.2 Weight. 21.4 kg (47 lb) maximum.

4.3 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.